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Reviewer: Durreshwar Anjum

Timestamp: [year=2009; month=6; day=12; hr=11; min=5; sec=31; ms=874;]

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Application No: 10559986 Version No: 2.0

Input Set:**Output Set:**

Started: 2009-06-03 17:31:31.594
Finished: 2009-06-03 17:31:37.075
Elapsed: 0 hr(s) 0 min(s) 5 sec(s) 481 ms
Total Warnings: 41
Total Errors: 0
No. of SeqIDs Defined: 95
Actual SeqID Count: 95

Error code	Error Description
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Input Set:

Output Set:

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Error code	Error Description
	This error has occurred more than 20 times, will not be displayed
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SEQUENCE LISTING

<110> Nestec S.A.; Cornell Research Foundation, Inc.

<120> Modulation Of Coffee Flavour Precursor Levels In Green Coffee Grains

<130> PAT 60100W-1

<140> 10559986

<141> 2006-09-11

<150> EP 03394056.0

<151> 2003-06-20

<160> 95

<170> PatentIn version 3.5

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<213> Coffea canephora

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<221> mRNA

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g atg atg atg aca agc gga ggt ctg atg cta acc tgc act ctg gct att 169

Met Met Met Thr Ser Gly Gly Leu Met Leu Thr Cys Thr Leu Ala Ile

1 5 10 15

acc ctc tta tcc tgc gca ctc atc tct tca acc act ttc caa cat gaa 217

Thr Leu Leu Ser Cys Ala Leu Ile Ser Ser Thr Thr Phe Gln His Glu

20 25 30

att cag tat cga gta caa gac ccg tta atg ata cgc caa gtc acc gac 265

Ile Gln Tyr Arg Val Gln Asp Pro Leu Met Ile Arg Gln Val Thr Asp

35 40 45

aat cac cac cac cgc cac cac cca ggt agg tct tct gca aac cat cgt 313

Asn His His His Arg His His Pro Gly Arg Ser Ser Ala Asn His Arg

50 55 60

cta	ctg	ggc	acc	acc	aca	gag	ggt	cac	ttc	aag	tcc	ttc	gtg	gag	gag	361
Leu	Leu	Gly	Thr	Thr	Thr	Glu	Val	His	Phe	Lys	Ser	Phe	Val	Glu	Glu	
65			70			75			80							
tac	gag	aaa	act	tac	tct	acg	cac	gag	gag	tac	gtg	cac	cgc	ctg	ggg	409
Tyr	Glu	Lys	Thr	Tyr	Ser	Thr	His	Glu	Glu	Tyr	Val	His	Arg	Leu	Gly	
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Ile	Phe	Ala	Lys	Asn	Leu	Ile	Lys	Ala	Ala	Glu	His	Gln	Ala	Met	Asp	
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ccc	tcc	gca	atc	cac	ggc	gtc	acc	cag	ttc	tct	gat	ctc	acc	gag	gag	505
Pro	Ser	Ala	Ile	His	Gly	Val	Thr	Gln	Phe	Ser	Asp	Leu	Thr	Glu	Glu	
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gag	ttt	gag	gct	acg	tac	atg	ggc	ctt	aaa	ggg	ggc	gct	gga	gtt	ggg	553
Glu	Phe	Glu	Ala	Thr	Tyr	Met	Gly	Leu	Lys	Gly	Gly	Ala	Gly	Val	Gly	
130			135			140										
ggg	acc	acc	cag	ctg	ggg	aaa	gat	gat	ggg	gat	gag	agt	gca	gca	gag	601
Gly	Thr	Thr	Gln	Leu	Gly	Lys	Asp	Asp	Gly	Asp	Glu	Ser	Ala	Ala	Glu	
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Val	Met	Met	Asp	Val	Ser	Asp	Leu	Pro	Glu	Ser	Phe	Asp	Trp	Arg	Glu	
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Lys	Gly	Ala	Val	Thr	Glu	Val	Lys	Thr	Gln	Gly	Arg	Cys	Gly	Ser	Cys	
180			185			190										
tgg	gct	ttt	agt	aca	act	gga	gct	att	gaa	gga	gct	aat	ttc	att	gca	745
Trp	Ala	Phe	Ser	Thr	Thr	Gly	Ala	Ile	Glu	Gly	Ala	Asn	Phe	Ile	Ala	
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act	ggc	aag	ctt	ctc	agc	cta	agt	gaa	cag	cag	ctt	gtg	gat	tgt	gat	793
Thr	Gly	Lys	Leu	Leu	Ser	Leu	Ser	Glu	Gln	Gln	Leu	Val	Asp	Cys	Asp	
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cat	atg	tgt	gat	tta	aaa	gaa	aaa	gat	gac	tgt	gat	gat	gga	tgc	tcc	841
His	Met	Cys	Asp	Leu	Lys	Glu	Lys	Asp	Asp	Cys	Asp	Asp	Gly	Cys	Ser	
225			230			235			240							
gga	ggg	cta	atg	aca	act	gct	ttc	aac	tac	ttg	ata	gag	gca	gga	ggg	889
Gly	Gly	Leu	Met	Thr	Thr	Ala	Phe	Asn	Tyr	Leu	Ile	Glu	Ala	Gly	Gly	
245			250			255										
ata	gag	gag	gag	gta	acc	tat	ccc	tac	act	ggg	aaa	cgc	gga	gaa	tgc	937
Ile	Glu	Glu	Glu	Val	Thr	Tyr	Pro	Tyr	Thr	Gly	Lys	Arg	Gly	Glu	Cys	
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aaa	ttc	aat	cct	gag	aaa	gtt	gcg	gtg	aaa	gtg	cgg	aat	ttc	gca	aaa	985
Lys	Phe	Asn	Pro	Glu	Lys	Val	Ala	Val	Lys	Val	Arg	Asn	Phe	Ala	Lys	
275			280			285										
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Ile Pro Glu Asp Glu Ser Gln Ile Ala Ala Asn Val Val His Asn Gly	
290 295 300	
ccg ctt gct att gga ttg aat gcg gta ttc atg caa act tac atc ggg	1081
Pro Leu Ala Ile Gly Leu Asn Ala Val Phe Met Gln Thr Tyr Ile Gly	
305 310 315 320	
ggg gtg tca tgt cct ctt att tgt gac aaa aag agg atc aac cat ggt	1129
Gly Val Ser Cys Pro Leu Ile Cys Asp Lys Lys Arg Ile Asn His Gly	
325 330 335	
gtt ctt ctt gtg ggc tat ggt tct aga ggc ttc tca atc ctt agg ctt	1177
Val Leu Leu Val Gly Tyr Gly Ser Arg Gly Phe Ser Ile Leu Arg Leu	
340 345 350	
ggc tac aag cca tac tgg att atc aag aac tca tgg ggg aag cgt tgg	1225
Gly Tyr Lys Pro Tyr Trp Ile Ile Lys Asn Ser Trp Gly Lys Arg Trp	
355 360 365	
ggc gaa cat ggt tgc tac cgg ctt tgt cga ggg cac aac atg tgt gga	1273
Gly Glu His Gly Cys Tyr Arg Leu Cys Arg Gly His Asn Met Cys Gly	
370 375 380	
atg agc aca atg gtt tca gct gtg gtg aca cag acc tct tga	1315
Met Ser Thr Met Val Ser Ala Val Val Thr Gln Thr Ser	
385 390 395	
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tatcatgttt tcgaaatatt taggtttgta taatatgaag ggtagagagt aataagaacc	1435
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35 40 45

Asn His His His Arg His His Pro Gly Arg Ser Ser Ala Asn His Arg
50 55 60

Leu Leu Gly Thr Thr Thr Glu Val His Phe Lys Ser Phe Val Glu Glu
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Ile Phe Ala Lys Asn Leu Ile Lys Ala Ala Glu His Gln Ala Met Asp
100 105 110

Pro Ser Ala Ile His Gly Val Thr Gln Phe Ser Asp Leu Thr Glu Glu
115 120 125

Glu Phe Glu Ala Thr Tyr Met Gly Leu Lys Gly Gly Ala Gly Val Gly
130 135 140

Gly Thr Thr Gln Leu Gly Lys Asp Asp Gly Asp Glu Ser Ala Ala Glu
145 150 155 160

Val Met Met Asp Val Ser Asp Leu Pro Glu Ser Phe Asp Trp Arg Glu
165 170 175

Lys Gly Ala Val Thr Glu Val Lys Thr Gln Gly Arg Cys Gly Ser Cys
180 185 190

Trp Ala Phe Ser Thr Thr Gly Ala Ile Glu Gly Ala Asn Phe Ile Ala
195 200 205

Thr Gly Lys Leu Leu Ser Leu Ser Glu Gln Gln Leu Val Asp Cys Asp
210 215 220

His Met Cys Asp Leu Lys Glu Lys Asp Asp Cys Asp Asp Gly Cys Ser
225 230 235 240

Gly Gly Leu Met Thr Thr Ala Phe Asn Tyr Leu Ile Glu Ala Gly Gly
245 250 255

Ile Glu Glu Glu Val Thr Tyr Pro Tyr Thr Gly Lys Arg Gly Glu Cys
260 265 270

Lys Phe Asn Pro Glu Lys Val Ala Val Lys Val Arg Asn Phe Ala Lys
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Ile Pro Glu Asp Glu Ser Gln Ile Ala Ala Asn Val Val His Asn Gly
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Pro Leu Ala Ile Gly Leu Asn Ala Val Phe Met Gln Thr Tyr Ile Gly
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Gly Val Ser Cys Pro Leu Ile Cys Asp Lys Lys Arg Ile Asn His Gly
325 330 335

Val Leu Leu Val Gly Tyr Gly Ser Arg Gly Phe Ser Ile Leu Arg Leu
340 345 350

Gly Tyr Lys Pro Tyr Trp Ile Ile Lys Asn Ser Trp Gly Lys Arg Trp
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Met Ala Lys Pro Ser Ser Ser Leu Leu Thr Leu
1 5 10

cct tcc ttt ctt ctg atc ttt ttc att ctt gca cta ttt tcc acc acc 159
Pro Ser Phe Leu Leu Ile Phe Phe Ile Leu Ala Leu Phe Ser Thr Thr
15 20 25

ctc caa gtt aat gcc ttg gga agg aaa gtg gga gca agg gag aag att 207
Leu Gln Val Asn Ala Leu Gly Arg Lys Val Gly Ala Arg Glu Lys Ile
30 35 40

gag gat gtg aag agc aac aaa gaa gtt caa gaa ctt ggg gaa tat tgt	255
Glu Asp Val Lys Ser Asn Lys Glu Val Gln Glu Leu Gly Glu Tyr Cys	
45 50 55	
gtt tct gag tac aac aag agt ttg cgg aag aag aac aac gaa agt ggt	303
Val Ser Glu Tyr Asn Lys Ser Leu Arg Lys Lys Asn Asn Glu Ser Gly	
60 65 70 75	
gct cct ata atc ttc aca tct gtg gtg gag gct gag aag cag gtg gtt	351
Ala Pro Ile Ile Phe Thr Ser Val Val Glu Ala Glu Lys Gln Val Val	
80 85 90	
gct ggg atc aaa tat tat ctc aag att aag gcc acc act tct tct ggg	399
Ala Gly Ile Lys Tyr Tyr Leu Lys Ile Lys Ala Thr Thr Ser Ser Gly	
95 100 105	
gtt ccc aag gtt tac gat gcc att gtg gtg gtt cgg cct tgg gtt cat	447
Val Pro Lys Val Tyr Asp Ala Ile Val Val Val Arg Pro Trp Val His	
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act aag cca agg cag ttg ctc aac ttc tcc cct tcc cct gcc act aaa	495
Thr Lys Pro Arg Gln Leu Asn Phe Ser Pro Ser Pro Ala Thr Lys	
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attattagta cctttcagtg caaattctct ttgctgttaa gtgttcgggtt tttttttttt	608
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 <213> Coffea canephora

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35 40 45	
Asn Lys Glu Val Gln Glu Leu Gly Glu Tyr Cys Val Ser Glu Tyr Asn	
50 55 60	

Lys Ser Leu Arg Lys Lys Asn Asn Glu Ser Gly Ala Pro Ile Ile Phe
65 70 75 80

Thr Ser Val Val Glu Ala Glu Lys Gln Val Val Ala Gly Ile Lys Tyr
85 90 95

Tyr Leu Lys Ile Lys Ala Thr Thr Ser Ser Gly Val Pro Lys Val Tyr
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115 120 125

Leu Leu Asn Phe Ser Pro Ser Pro Ala Thr Lys
130 135

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aaaaatccat tcttgggaatt catthtatcca tatacaccat acttgtgcat gtccctttttg 180
gttggttttgc ttttgtgata agtaattggt gggtttattgg tttttcatga tggctccgga 240
tctaagaaga aatgggtcgg tagtagcttt agccctgtta gtctctctgg ttgttaatgg 300
tggtattttt gatgtagaag gtaacaataa tgtgggtttt gaggtggaac ataaatttaa 360
agggagaagg aatgagaatg gaggaagagg gtctttttga cttcactcaa ggctcatgat 420
tcccaccgcc atggcaga atg ctt gca gcc ctt gac atg cct ttg ggt ggc 471
Met Leu Ala Ala Leu Asp Met Pro Leu Gly Gly
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Asn Gly Ser Pro Thr Asp Ala Ala Leu Tyr Phe Thr Lys Leu Ser Ile

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Ile Leu Trp Val Asn Cys Ala Gly Cys Val Arg Cys Pro Lys Lys Ser			
45	50	55	
agt ctt ggt att gac ttg act cta tat gac atg aaa gcc tcc agc acc			663
Ser Leu Gly Ile Asp Leu Thr Leu Tyr Asp Met Lys Ala Ser Ser Thr			
60	65	70	75
ggg aga ctt gtt act tgt gat caa gac ttt tgc ttg tct gca ttc aat			711
Gly Arg Leu Val Thr Cys Asp Gln Asp Phe Cys Leu Ser Ala Phe Asn			
80	85	90	
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Ala Pro Ala Ser Asp Cys Lys Val Gly Asn Pro Cys Ala Tyr Ser Val			
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Thr Tyr Gly Asp Gly Ser Ser Thr Gly Gly Tyr Phe Val Arg Asp Tyr			
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Ala Lys Leu Asn Gln Leu Thr Gly Asn Leu Gln Thr Ile Pro Met Asn			
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Gly Ser Ile Val Phe Gly Cys Ser Ser Gln Gln Ser Gly Glu Leu Gly			
140	145	150	155
tca tct act gaa gca gtt gat ggc ata att ggt ttt gga caa gca aat			951
Ser Ser Thr Glu Ala Val Asp Gly Ile Ile Gly Phe Gly Gln Ala Asn			
160	165	170	
tca tct att att tca cag ctt gct tca gca gga aag gtt aaa aaa ata			999
Ser Ser Ile Ile Ser Gln Leu Ala Ser Ala Gly Lys Val Lys Lys Ile			
175	180	185	
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Phe Ser His Cys Leu Asp Gly Ile Asn Gly Gly Gly Ile Phe Ala Ile			
190	195		